

**Advanced Academic Programs
Zanvyl Krieger School of Arts and Sciences
Johns Hopkins University**

Course and Instructor Information

Course Number: AS.440.614.81.FA21 – Macroeconometrics (Time-series analysis)

Term Year: Fall 2021

Instructor Information

Instructor: Roumen Vesselinov, PhD
Telephone Number: (516) 462-4500
Email Address: Roumen@jhu.edu
Office Hours: email, phone, or ZOOM meeting

Course Information

Credit Hours: 3

Class Times: online

Course Location: (Online)

Course Description:

This course focuses on the practical uses of time-series econometrics in a macroeconomic context. The topics covered include autoregressive-moving average processes, non-stationary time series models, unit root tests, vector autoregression models, and cointegration analysis. Prerequisites: 440.602 Macroeconomic Theory and Policy; 440.606 Econometrics.

About Your Course

(Please note that course details included are subject to change)

Course Structure

What to Expect in this Course

This course is 15 weeks in length and includes activities in a weekly cycle of instruction. Each week begins on a Tuesday and ends on the following Monday. Please review the course syllabus thoroughly to learn about specific course outcomes and requirements.

Program Learning Objectives

When you successfully complete the program requirements, you will achieve the following goals:

- P4 Construct advanced econometric and other quantitative models to estimate, test, and forecast economic relationships

Course Learning Objectives

When you successfully complete the course, you will be able to:

- C1 Apply theoretical and applied tools used by professional economists to analyze time series data.
- C2 Execute and assess analysis of time series data in univariate and multivariate applied contexts.
- C3 Use statistical software and, in particular, its time series applications.

Required Text

Textbook

The following texts are required for this course:

- Applied Econometric Time Series, Edition: 4TH, 2015, Author: Enders, Walter, MBS Direct SKU #: 1869874, Publisher: John Wiley & Sons, Publisher Imprint: VitalSource Rentals, ISBN 978-1-119-03032-4

Other equipment/software/websites/online resources

This course requires the use of the following resources: time-series software.

You can use any software that can perform time-series analysis. In class we will use mostly EViews and STATA.

Use the link below to request the free EViews 12 Student Version Lite:

<http://register1.eviews.com/Lite/>

Most software packages have student discount.

You can try resources available through [JHU Information Technology Services](#) .

Specific Technology Requirements & Skills for this Course

This course requires the use of a computer that complies with the following hardware specifications:

Learning online requires some basic knowledge of computer technology. At a minimum, you need to be able to:

- Navigate in and use Blackboard; the Blackboard Student Orientation course on your “My Institution” page
- Create and save MS Word documents; review [MS Word training and tutorials](#) for PC users (all versions); [Word Help](#) for Mac users
- Find basic resources on the Internet
- Create and organize files & folders on your computer
- Send, receive, and manage email

Evaluation and Grading Policy

In the table below, you will find a brief description of the various course requirements.

Please see Appendix A for the full course schedule.

Course Requirements	Assignment Value
Assignments (homework)	Total of 28%
Midterm Exam	30%
Final Project	40%
Course Engagement: You are expected to have an active presence in course discussions, and complete course activities as noted in the assignment guidelines to maximize your learning. Participation in activities should be consistent, of high quality, and reflect both a high level of academic thinking and your own personal perspectives, opinion, and ideas.	2%
Total	100%

Grading Scale

A	94 to 100
A-	90 to 93
B+	88 to 89
B	84 to 87
B-	80 to 83
C	70 to 79
F	0 to 69

This course will follow the [Advanced Academic Programs Grading Policies](#).

Assignment Submission

Students are required to adhere to the following guidelines when submitting written work:

- Use APA format
- Adhere to word limits for each assignment
- [Cite sources properly](#)

The instructors are required to use the SafeAssign or Turnitin tool for written assignments. Please review the JHU Ethics Statement below prior to submission.

Assignment Feedback

The instructor will aim to return assignments to you within 5-7 days following the due date, depending on the length of the assignment. You will receive feedback in the My Grades area of the course which can be accessed via the navigation menu.

Late Policy

You are expected to contact your instructor in advance if you think you cannot meet an assignment deadline. However, if an assignment is late and prior arrangements have not been made with the instructor, the assignment score will be reduced by 10%.

Extra Credit: There is no extra credit.

Directions for Students

Next Steps: Carefully review the remaining sections of the syllabus before beginning the first week's activities, which are located in the **Lessons/Course Content** area of the navigation menu in your online course. Once you feel that you are ready to dive into the first week's activities, select **Lessons/Course Content** on the navigation menu. Then, select **Week 1** to begin.

Course Policies

Course Participation

This course is asynchronous and you can watch the posted lessons and video at any time.

The instructor may hold optional synchronous sessions in [Zoom](#). If you cannot attend a synchronous session, you can watch the recording at a later time.

Time Management Expectations

It is expected that you look ahead to schedule your time. Plan to complete coursework across several days of the week rather than all in one day. Be sure to consider how group activities impact your schedule as well. Some assignments require that you work on them for multiple weeks. Be sure to review the assignment directions at the beginning of the course so that you can plan your time accordingly. Please seek help before becoming frustrated and spending a significant amount of time to resolve an issue.

Participation Requirements

Active participation within our online course requires you to log into Blackboard multiple times throughout the week - a daily check-in is recommended. You are expected to have an active presence in course discussions, read all announcements, and complete course activities as noted in the assignment guidelines to maximize your learning. Participation in activities should be consistent, of high quality, and reflect both a high level of academic thinking and your own personal perspectives, opinion, and ideas.

Online Etiquette

In this course, online discussion will primarily take place in our online discussion board. In all textual online communication, it is important to follow proper rules of online etiquette - communicating with others in a proper and respectful way. For helpful tips, please refer to these [Ground Rules for Online Discussions](#).

Course Protocols and Getting Help

Amendments to the Course

Changes to the course will be posted in the Announcements section of your course. Please check announcements every time that you log into your online course.

Course Communication

You should communicate often with your classmates and the instructor. The majority of communication will take place within the Discussion forums. When you have a question about an assignment or a question about the course, please contact your instructor, or post your question in the course's "Syllabus & Assignment Question" forum.

Email Communication

For questions regarding course activities and assignments that would be general interest to other students, please post those in the Discussion forum. If you have a question regarding course activities and assignments of a personal nature, please send an email message to the instructor and observe the following guidelines:

- Include the title of the course in the subject field (e.g., JHU Insert Name of Course).
- Keep messages concise, and check spelling and grammar.
- Sign your full name (the sender's email is not always obvious).

Feel free to contact your instructor with comments, questions, and concerns. All email messages will be sent to you via your JHU email account, so you should be in the habit of checking that account every day or you should ensure that your JHU email account forwards messages to another account of your choice. Email messages will be responded to within 24-48 hours.

University Policies

General

This course adheres to all University policies described in the academic catalog. Please pay close attention to the following policies:

Academic Conduct

All JHU students assume an obligation to conduct themselves in a manner appropriate to the Johns Hopkins University's mission as an institution of higher education and with accepted standards of ethical and professional conduct. Students must demonstrate personal integrity and honesty at all times in completing classroom assignments and examinations, in carrying out their fieldwork or other applied learning activities, and in their interactions with others. Students are obligated to refrain from acts they know or, under the circumstances, have reason to know will impair their integrity or the integrity of the University. Students and faculty in Advanced Academic Programs are required to adhere to the academic integrity guidelines and process laid out in the [Graduate Academic Misconduct Policy](#). Refer to the website for more information regarding the academic misconduct policy.

If you use Safe Assign or Turnitin or any other plagiarism detection tool add the following: Please note that student work may be submitted to an online plagiarism detection tool at the discretion of the course instructor. If student work is deemed plagiarized, the course instructor will follow the policy and procedures governing academic misconduct.

Ethics & Plagiarism

JHU Ethics Statement: The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams, plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition. Report any violations you witness to the instructor.

Read and adhere to JHU's [Notice on Plagiarism](#).

Copyright Policy

All course materials are the property of JHU and are to be used for the student's individual academic purpose only. Any dissemination, copying, reproducing, modification, displaying, or transmitting of any course material content for any other purpose is prohibited, will be considered misconduct under the [JHU Copyright Compliance Policy](#), and may be cause for disciplinary action. In addition, encouraging academic dishonesty or cheating by distributing information about course materials or assignments which would give an unfair advantage to others may violate AAP's [Code of Conduct](#) and the University's [Student Conduct Code](#). Specifically, recordings, course materials, and lecture notes may not be exchanged or distributed for commercial purposes, for compensation, or for any purpose other than use by students enrolled in the class. Other distributions of such materials by students may be deemed to violate the above University policies and be subject to disciplinary action.

Students with Disabilities

Johns Hopkins University is committed to providing reasonable and appropriate accommodations to students with disabilities. Students with documented disabilities should contact the coordinator listed on the [Disability Accommodations](#) page. Further information and a link to the Student Request for Accommodation form can also be found on the [Disability Accommodations](#) page.

Dropping the Course

You are responsible for understanding the university's policies and procedures regarding withdrawing from courses found in the current catalog. You should be aware of the current deadlines according to the [Academic Calendar](#).

Getting Help

You have a variety of methods to get help on Blackboard. Please consult the resource listed in the "Blackboard Help" link for important information. If you encounter technical difficulty in completing or submitting any online assessment, please immediately contact the designated help desk listed on the [AAP online support page](#). Also, contact your instructor at the email address listed in the syllabus.

Title IX Confidentiality and Mandatory Reporting

As an instructor, one of my responsibilities is to help create a safe and inclusive learning environment on our campus. I also have mandatory reporting responsibilities related to my role as a Responsible Employee under the Sexual Misconduct Policy & Procedures (which prohibits sexual harassment, sexual assault, relationship violence and stalking), as well as the General Anti-Harassment Policy (which prohibits all types of protected status based discrimination and harassment). It is my goal that you feel able to share information related to your life experiences in classroom discussions, in your written work, and in our one-on-one meetings. I will seek to keep information you share private to the greatest extent possible. However, I am required to share information that I learn of regarding sexual misconduct, as well as protected status-based harassment and discrimination, with the Office of Institutional Equity (OIE). For a list of individuals/offices who can speak with you confidentially, please see Appendix B of the [JHU Sexual Misconduct Policies and Laws](#).

For more information on both policies mentioned above, please see: [JHU Relevant Policies, Codes, Statements and Principles](#). Please also note that certain faculty and other University community members also have a duty as a designated Campus Safety Authority under the Clery Act to notify campus security of certain crimes, as well as a duty under State law and University policy to report suspected child abuse and/or neglect.

Diversity

Johns Hopkins is a community committed to sharing values of diversity and inclusion in order to achieve and sustain excellence. We firmly believe that we can best promote excellence by recruiting and retaining a diverse group of students, faculty, and staff and by creating a climate of respect that is supportive of their success. This climate for diversity, inclusion, and excellence is critical to attaining the best research, scholarship, teaching, health care, and other strategic goals of the Health System and the University. Taken together these values are recognized and supported fully by the Johns Hopkins Institutions leadership at all levels. Further, we recognize that the responsibility for excellence, diversity, and inclusion lies with all of us at the Institutions: leadership, administration, faculty, staff, and students.

For more information on JHU's commitment to diversity, please visit the [Diversity at JHU](#) website.

Student Conduct Code

The fundamental purpose of the Johns Hopkins University's (the "University" or "JHU") regulation of student conduct is to promote and to protect the health, safety, welfare, property, and rights of all members of the University community as well as to promote the orderly operation of the University and to safeguard its property and facilities. As members of the University community, students accept certain responsibilities which support the educational mission and create an environment in which all students are afforded the same opportunity to succeed academically.

For a full description of the code please visit the [Student Conduct Code](#) website.

Course Evaluation

Please remember to complete an online course evaluation survey for this course. These evaluations are an important tool in the ongoing efforts to improve instructional quality and strengthen programs. The results of the course evaluations are kept anonymous – your instructor will only receive aggregated data and comments for the entire class. An email with a link to the online course evaluation form will be sent to your JHU email address close to the end of the semester.

Appendix A

For Indicating dates, topics, assignments, and objectives for each class session within Appendix A. Follow the standard JHU credit hour class length model ([JHU Credit Hour Policy](#)).

Tentative Course Schedule

Activity and assignment details will be explained in detail within each week's corresponding learning module (Lessons in Blackboard). If you have any questions, please contact your instructor.

This schedule is subject to change with fair notice.

Week	Date	Topic	Chapter	HW due
0	8/30	Introduction		
		LABOR DAY		
1	9/13	Introduction to Difference Equation	1	
2	9/20	Solving Difference Equations	1	1
3	9/27	Introduction to ARMA Models.	2	2
4	10/4	Identifying and Estimating ARMA Models	2	3
5	10/11	Stochastic and Deterministic Trends	4	4
6	10/18	Testing for Unit Roots	4	5
7	10/25	Midterm Exam		Midterm Exam
8	11/1	Vector Autoregression (VAR) Models	5	
9	11/8	More on VAR	5	6
10	11/15	Cointegration and Error-Correction Models	6	7
		THANKSGIVING BREAK		
11	11/29	More on Cointegration	6	8
12	12/6	GARCH Models	3	
13	12/13	More on GARCH Models	3	9
14	12/20	Overview		Final Project

Homeworks are due by midnight on the date shown in the schedule above. Both MS Word and PDF format are acceptable as long as they are readable. You can submit homeworks via Blackboard.